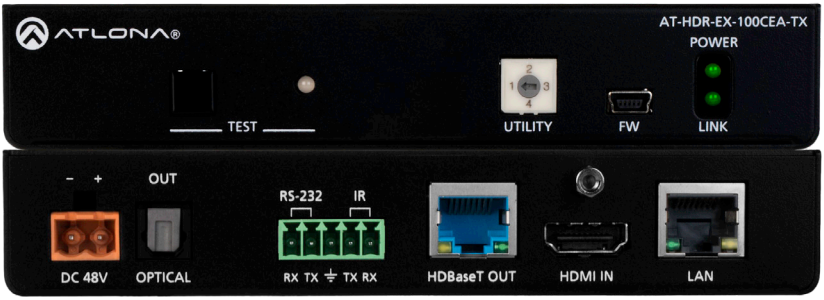
4K HDR HDBaseT Transmitter with Control and Ethernet

AT-HDR-EX-100CEA-TX



The Atlona AT-HDR-EX-100CEA-TX is a HDBaseT™ transmitter for 4K and high dynamic range (HDR) content. It supports extension of 4K/UHD video @ 60 Hz with 4:4:4 chroma sampling plus HDR data, multi-channel audio, Ethernet, control signals, and power up to 330 ft (100 m) over Category 6/6A cable.

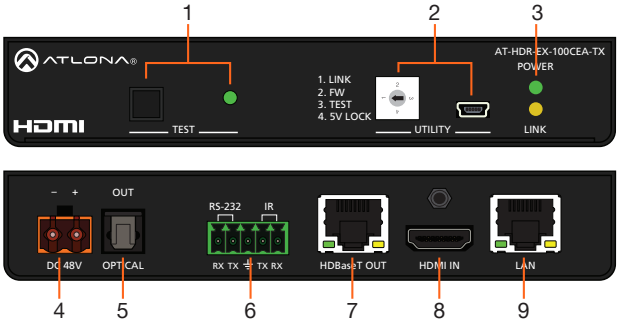
The HDR-EX-100CEA-TX is ideal for use with the AT-HDR-EX-100CEA-RX receiver for transmitting 4K HDR in point-to-point applications. It can also be used with the AT-UHD-CLSO-824 and AT-UHD-SW-5000ED for transmitting 4K/UHD @ 60 Hz 4:2:0 signals to the switchers from a remote source.

Package Contents

1 x AT-HDR-EX-100CEA-TX
2 x Mounting brackets
4 x Mounting screws
1 x 48V DC power supply
1 x 2-pin captive screw connector
1 x 5-pin captive screw connector

IMPORTANT: Visit https://atlona.com/product/at-hdr-ex-100cea-tx for the latest firmware updates and Installation Guide.

Panel Descriptions



1 TEST
Quick and easy test for cables when used with the AT-HDR-EX-100CEA-RX. Use the button to start the test and the LED to determine pass or fail.

2 UTILITY
Connect a mini-USB to USB-A cable from this port to a computer for updating and testing. Rotate the dial to set the unit into different modes.

3 POWER and LINK LEDs
The power LED will illuminate green when receiving power. The link LED will glow yellow when signal is being sent/received between the transmitter and the receiver.

4 DC 48V
Connect the included power supply to this port.

5 OPTICAL OUT
This port is only available for audio pass through when used with the AT-HDR-EX-100CEA-RX.

6 RS-232 / IR
Connect the included 5-pin captive screw connector to this port.

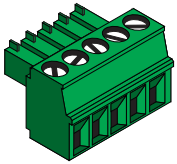
7 HDBaseT OUT
Connect an Ethernet cable from this port to the HDBaseT input on a compatible receiver.

8 HDMI IN
Connect an HDMI cable from this port to a UHD/HD source.

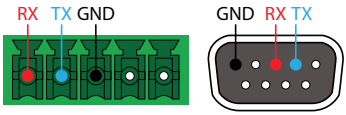
9 LAN
Connect an Ethernet cable from this port to a network switch.

Control

A 5-pin captive screw connector for control has been included. The first two terminals are RS-232 control with a shared ground with IR, the last two terminals are for IR.

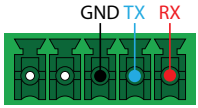


RS-232



Pin out will be determined by the RS-232 cable and connect as RX (receive), TX (transmit) and ⏚ (Ground).

IR

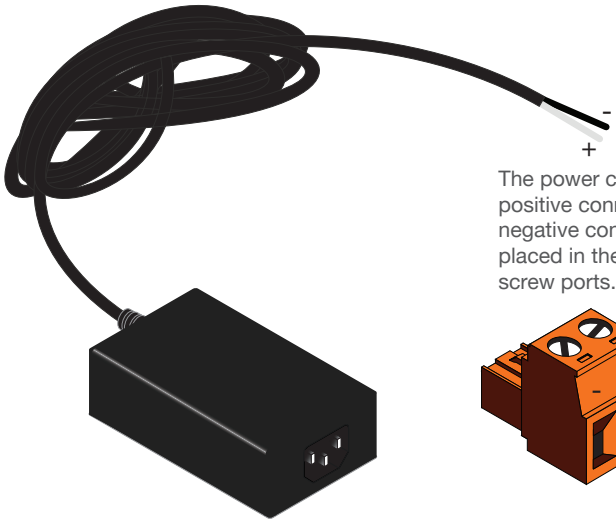


The IR connector shares the ground port with the RS-232 port and is both a Transmitter (TX) and Receiver (RX).

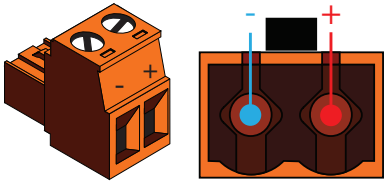
For the transmitter, Atlona recommends using the 3 meter IR cable AT-IR-CS-TX.

Power

A 2-pin captive screw connector for the power supply has been included.



The power cable will be white for the positive connection and black for the negative connection. These should be placed in the corresponding captive screw ports.



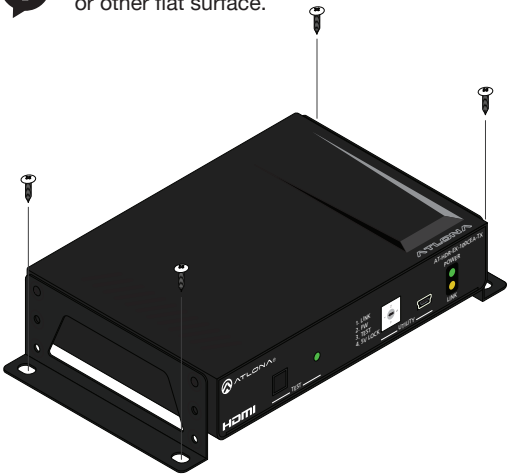
Mounting Instructions

The AT-HDR-EX-100CEA-TX includes two mounting brackets and four mounting screws each, which can be used to attach the units to any flat surface.

1. Position one of the mounting brackets, as shown below, aligning the holes on the side of the enclosure with one set of holes on the mounting bracket.
2. Use the enclosure screws to secure the mounting bracket to the enclosure.
3. Repeat the above steps to attach the second mounting bracket to the opposite side of the unit.

4. Mount the unit using the oval-shaped holes, on each mounting bracket. If using a drywall surface, a #6 drywall screw is recommended.

NOTE: Mounting brackets can also be inverted to mount the unit under a table or other flat surface.



Installation

1. Connect an AV source to the **HDMI IN** port on the transmitter.
2. Connect a display to the **HDMI OUT** port on the compatible receiver.
3. Connect an RJ45 cable, from the **HDBaseT OUT** port on the transmitter, to the HDBaseT input of a compatible receiver.
4. Connect an Ethernet cable from the **LAN** port to a network switch or source (when receiving Ethernet from the compatible receiver).
5. ***Optional*** Connect an RS-232 control system to the transmitter or connect an RS-232 source to be controlled by the compatible receiver's RS-232.
6. ***Optional*** Connect an IR emitter to the TX and ground port. Connect an IR receiver to the RX and ground port.
7. Connect the included 48 V DC power supply to the **DC 48V** port on the transmitter.
8. Connect the power supply to an available AC outlet.

Cable Recommendation Guidelines

Refer to the tables below for recommended cabling when using Altona products with HDBaseT. The green bars indicate the signal quality when using each type of cable. Higher-quality signals are represented by more bars.

Core	Shielding	CAT5e	CAT6	CAT6a	CAT7
Solid	UTP (unshielded)	■	■■■	■■■■	N/A
	STP (shielded)	■■	■■■■	■■■■■	■■■■■

IMPORTANT: Stranded or patch cables are not recommended due to performance issues.

Cable*	Max. Distance @ 4K	Max. Distance @ 1080p
CAT5e	295 feet (90 meters)	330 feet (100 meters)
CAT6 / CAT6a / CAT7	330 feet (100 meters)	330 feet (100 meters)

*Atlona recommends TIA/EIA 568-B termination for optimal performance.

TEST

The HDR-EX-100CEA-TX has the ability to test the HDBaseT cable quality through the front panel. Press the test button on the front panel of the transmitter to start the test.

NOTE: Test function only works when used with AT-HDR-EX-100CEA-RX.

Button:

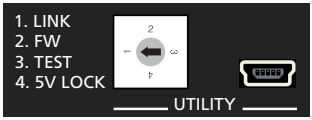
- Blue Blinking: The test is running properly.
- Red Light: There is no signal for the test to check.

LED:

- No Light: There is no HDBaseT cable plugged in.
- Blinking: There is no HDBaseT signal coming through.
- Green: The HDBaseT cable is good.
- Yellow: One or two HDBaseT pairs are not working, reterminate the cable.
- Red: Multiple pairs are not working. Reterminate the cable and if the LED turns yellow or red again, replace the cable.

UTILITY

The utility port and dial are used for updating firmware, HDBaseT cable testing/debugging, and 5V lock. Use the Dial to switch between modes.



Mode 1: Link

This is the default position of the dial and puts the unit into normal operation.

Mode 2: FW

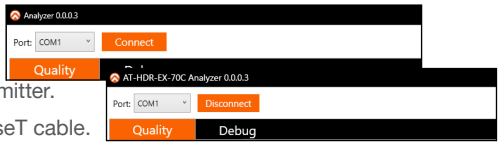
This mode sets the transmitter into firmware updating mode. View Firmware Updating instructions on the next page for manual updating.

NOTE: Before setting the unit to mode 3 (TEST), the Atlona Analyzer should be downloaded from the resource tab located at:
https://atlona.com/product/at-hdr-ex-100cea-tx

Mode 3: TEST

This mode sets the transmitter into HDBaseT testing and debugging mode. Firmware may also be updated in this mode using the Atlona Analyzer software.

Quality Testing



1. Open the Analyzer software.
2. Plug in the power supply of the transmitter.
3. Connect the receiver using an HDBaseT cable.
4. Connect an active source to the transmitter and an active display to the receiver. Set the source to the highest resolution.
5. Set the Utility dial to **3**.
6. Connect the transmitter's Utility mini USB port to a PC using a mini USB to USB A cable.
7. Select the COM port in the Analyzer software and press the connect button.
8. Once connected, press the **Start** button. The link information and cable pairing test results will display. Follow the instructions on the Analyzer software for any pair failures.
9. When complete, set the utility dial back to **1** or **4** for normal operation.

Debug

1. Open the Analyzer software.
2. Select **Debug** from the top navigation.
3. Plug in the power supply of the transmitter.
4. Connect the receiver using an HDBaseT cable.
5. Connect an active source to the transmitter and an active display to the receiver. Set the source to the highest resolution

6. Set the Utility dial to **3**.
7. Connect the transmitter's Utility mini USB port to a PC using a mini USB to USB A cable.
8. Select the COM port and press the connect button.
9. Press the Debug button. Information will appear in the box field if there is any data that can be logged. The log can be saved to the local computer if needed.
10. Set the dial back to 1 or 4 for normal operation.

Mode 4: 5V Lock

This mode sets the +5V and the HPD signal of the transmitter and receiver to high. This allows the source and display to have a consistent connection, even if there are issues with the source and display signals.

Updating Firmware (manually)

1. Download the firmware .zip file from the firmware tab located at https://atlona.com/at-hdr-ex-100cea-tx.
2. Unzip the .bin file to an easy to locate area of the local PC.
3. Set the Utility dial on the front of the unit to mode **2**.
4. Connect the unit's Utility mini USB port to a PC using a mini USB to USB A cable.
5. The PC should automatically detect the 100CEA and display the autorun options.
6. Select the view files in folder option. A new window will open.
7. If there are any files inside the folder, delete them, otherwise drag and drop the .bin file into the folder. While the firmware loads to the unit, the green power LED on the front panel will flash.
8. Once the green LED goes solid, disconnect the unit from the PC. The firmware update is finished.
9. Repeat these steps for both the transmitter and receiver.
10. Set the Utility dial back to 1 or 4 for normal operation.

Warranty

To view the product warranty, use the following link or QR code:
https://atlona.com/warranty/.

English Declaration of Conformity

The English version can be found under the resources tab at:
https://atlona.com/product/at-hdr-ex-100cea-tx/.

Chinese Declaration of Conformity 中国RoHS合格声明

由SKU列出於:
https://atlona.com/about-us/china-rohs/.

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